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NOTICE OF ALLOWANCE AND FEE(S) DUE

24267 7590 03/18/2010

CESARI AND MCKENNA, LLP
88 BLACK FALCON AVENUE
BOSTON, MA 02210

EXAMINER

COLAN, GIOVANNA B

ART UNIT

PAPER NUMBER

2162

DATE MAILED: 03/18/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/803,788

03/17/2004

Hristo Iankov Bojinov

112056-0474

8050

TITLE OF INVENTION: METHOD AND APPARATUS FOR IMPROVING FILE SYSTEM PROXY PERFORMANCE AND SECURITY BY DISTRIBUTING INFORMATION TO CLIENTS VIA FILE HANDLES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$300	\$0	\$1055	06/18/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

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A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

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24267 7590 03/18/2010

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(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/803,788 03/17/2004 Hristo Iankov Bojinov 112056-0474 8050

TITLE OF INVENTION: METHOD AND APPARATUS FOR IMPROVING FILE SYSTEM PROXY PERFORMANCE AND SECURITY BY DISTRIBUTING INFORMATION TO CLIENTS VIA FILE HANDLES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional YES \$755 \$300 \$0 \$1055 06/18/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
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COLAN, GIOVANNA B 2162 707-010000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,788	03/17/2004	Hristo Iankov Bojinov	112056-0474	8050
24267	7590	03/18/2010	EXAMINER	
CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210			COLAN, GIOVANNA B	
			ART UNIT	PAPER NUMBER
			2162	
DATE MAILED: 03/18/2010				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 505 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 505 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	10/803,788	BOJINOV ET AL.	
	Examiner	Art Unit	
	GIOVANNA COLAN	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03/08/2010.
2. ☒ The allowed claim(s) is/are 1-5 and 30-67.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>See Continuation Sheet</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Continuation of Attachment(s) 3. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: 03/08/2010, 05/01/2006.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Michael T. Abramson on March 11, 2010.

3. The application has been amended as follows:

In the claim:

32. An apparatus to establish identity in a file system, comprising:

a proxy configured to receive a first Network File System (NFS) operation concerning an indicated file sent by a client to the file system, the proxy further configured to forward the first NFS operation to be received by a file server;

the file server configured to return a NFS file handle associated with the first NFS operation to the proxy in response to the file server receiving the first NFS operation from the proxy;

the proxy further configured to insert metadata into the NFS file handle in response to receiving the NFS file handle from the file server, wherein the metadata is an encryption key; and

the proxy further configured to send the NFS file handle with the metadata inserted in the NFS file handle to the client as a reply to the first NFS operation, the

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metadata and the NFS file handle to be used in a second NFS operation to identify the client and the indicated file;

the proxy further configured to receive, by the client, a second NFS operation, the second NFS operation comprising the metadata in the second NFS file handle sent with the second NFS operation;

the proxy to identify, in response to the metadata, the client as having a permission to submit the second NFS operation;

the proxy to send the second NFS operation to the file server and not to send the metadata with the second NFS file handle to the file server; and

the proxy to receive a second NFS reply from the file server, and the proxy to send the second NFS reply to the client.

33. The apparatus of Claim 32, whereby using the metadata in the NFS file handle eliminated the need for the proxy to generate additional requests to the file server to complete client requests ~~apparatus as in claim 32, further comprising:~~

~~the proxy further configured to receive, by the client, a second NFS operation, the second NFS operation comprising the metadata in the second NFS file handle sent with the second NFS operation;~~

~~the proxy to identify, in response to the metadata, the client as having a permission to submit the second NFS operation;~~

~~the proxy to send the second NFS operation to the file server and not to send the metadata with the second NFS file handle to the file server; and~~

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~~the proxy to receive a second NFS reply from the file server, and the proxy to send the second NFS reply to the client.~~

38. A non-volatile memory executed on a computer, comprising:

the non-volatile memory containing procedures for execution on the computer for a method of establishing identity in a file system, the method having the steps of

receiving, from a client, a ~~first Network File System (NFS)~~ operation concerning an indicated file, the first NFS operation received by a proxy;

forwarding the first NFS operation from the proxy to be received by a file server;

returning a NFS file handle associated with the first NFS operation from the file server to the proxy in response to the file server receiving the first NFS operation from the proxy;

inserting, by the proxy, metadata into the NFS file handle in response to receiving the NFS file handle from the file server, wherein the metadata is an encryption key; and

sending, by the proxy in response to receiving the NFS file handle from the file server, the NFS file handle with the metadata inserted in the NFS file handle to the client as a reply to the first NFS operation; and

~~using, by the client, the metadata and the NFS file handle in a second NFS operation to identify the client and the indicated file;~~

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receiving, from the client, a second file request by the proxy, the second file request comprising the metadata in a second file handle sent with the second file request;

identifying, in response to the metadata, that the client has permission to submit the second file request;

sending the second file request to the file server and not sending the metadata with the second file handle to the file server; and

receiving, by the proxy, a second reply from the file server, and sending by the proxy the second reply to the client.

39. (Previously Presented) A method for establishing identity in a file system, comprising:

receiving a first file request concerning an indicated file from a client, the first file request received by a proxy;

forwarding the first file request from the proxy to a file server;

granting a permission for the request to be acted upon by the file system in response to a predetermined protocol;

returning a reply associated with the first file request from the file server to the proxy, wherein the reply includes a file handle associated with the indicated file;

inserting, by the proxy, a session key into the file handle; and

sending, by the proxy, the file handle with the session key inserted in the file handle to the client, the session key to be used in further requests to identify the client and the indicated file

receiving, from the client, a second file request by the proxy, the second file request comprising information from the session key in a second file handle sent with the second file request;

identifying, in response to the session key, that the client has permission to submit the second file request;

sending the second file request to the file server and not sending the session key with the second file handle to the file server; and

receiving, by the proxy, a second reply from the file server, and sending by the proxy the second reply to the client.

40. The non-volatile memory of Claim 38, whereby using the metadata in the file handle eliminates a need for the proxy to generate additional requests to the file server to establish file identity ~~further comprising:~~

~~receiving, from the client, a second NFS operation by the proxy, the second NFS operation comprising a session key in a second NFS file handle sent with the second NFS operation;~~

~~identifying, in response to the session key, that the client has the permission to submit the second NFS operation;~~

~~sending the second NFS operation to the file server and not sending the session key with the second NFS file handle to the file server; and~~
~~receiving by the proxy a second NFS reply from the file server, and sending by the proxy the second NFS reply to the client.~~

45. An apparatus to establish identity in a file system, comprising:

a proxy to receive a file request sent by a client to the file system, the proxy to forward the request to a file server;

the file server to return a reply associated with the file request to the proxy, wherein the reply includes a file handle;

the proxy to insert a session key into the file handle; ~~and~~

the proxy to send the file handle with the session key inserted in the file handle to the client, the session key to be used in further requests to identify the client and the indicated file;

the proxy to receive, by the client, a second file request, the second file request to include the session key in a further file handle sent with the second request;

the proxy to identify, in response to the session key, the client as having a permission to submit the another file request;

the proxy to send the second request to the file server and not to send the session key with the second file handle to the file server; and

the proxy to receive a further reply from the file server, and the proxy to send the further reply to the client.

46. The apparatus as in claim 45, whereby using the session key in the file handle eliminates a need for the proxy to generate additional requests to the file server to establish file identity ~~further comprising:~~

~~the proxy to receive, by the client, a second file request, the second file request to include the session key in a further file handle sent with the second request;~~

~~the proxy to identify, in response to the session key, the client as having a permission to submit the another file request;~~

~~the proxy to send the second request to the file server and not to send the session key with the second file handle to the file server; and~~

~~the proxy to receive a further reply from the file server, and the proxy to send the further reply to the client.~~

47. The apparatus of Claim 45, ~~further comprising:~~ wherein

~~the proxy to use the metadata in the file handle~~ is a Network File System (NFS) file handle ~~received from the client to eliminate a need for additional communication with the file server to establish file identity.~~

52. A method for establishing identity in a file system, comprising:

receiving a first file request concerning an indicated file from a client, the first file request received by a proxy;

forwarding the first file request from the proxy to a file server;

determining that the client has a permission to have the request acted upon by the file system in response to a predetermined protocol;

returning a reply associated with the first file request from the file server to the proxy, wherein the reply includes a file handle associated with the indicated file;

inserting, by the proxy, a cryptographic information into the file handle

sending, by the proxy, the file handle with the cryptographic information inserted in the file handle to the client, the cryptographic information to be used in one or more requests to identify the client and the indicated file;

receiving, by the client, a second file request by the proxy, the second file request including the cryptographic information in a second file handle sent with the second file request;

identifying, in response to the cryptographic information, that the client has the permission to submit the second file request;

sending the second file request to the file server and not sending the cryptographic information with the second file handle to the file server; and

receiving by the proxy a second reply from the file server, and sending by the proxy the second reply to the client.

53. The method according to claim 52, whereby using the cryptographic information in the file handle eliminates a need for the proxy to generate additional requests to the file server to establish file identity further comprising:

~~receiving, by the client, a second file request by the proxy, the second file request including the cryptographic information in a second file handle sent with the second file request;~~

~~identifying, in response to the cryptographic information, that the client has the permission to submit the second file request;~~

~~sending the second file request to the file server and not sending the cryptographic information with the second file handle to the file server; and~~

~~receiving by the proxy a second reply from the file server, and sending by the proxy the second reply to the client.~~

58. An apparatus to establish identity in a file system, comprising:

a proxy configured to receive a file request for an indicated file sent by a client to the file system, the proxy further configured to forward the request to a file server;

the file server configured to return a reply associated with the file request to the proxy, wherein the reply is configured to include a file handle;

the proxy further configured to insert a cryptographic information into the file handle; and

the proxy further configured to send the file handle with the cryptographic information inserted in the file handle to the client, the cryptographic information configured to be used in further requests to identify the client and the indicated file;

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the proxy further configured to receive, by the client, a second request, the second file request to include the cryptographic information in a second file handle sent with the second request;

the proxy further configured to identify, in response to the cryptographic information, the client as having a permission to submit the second file request;

the proxy further configured to send the second request to the file server and not to send the cryptographic information with the second file handle to the file server; and

the proxy further configured to receive a further reply from the file server, and the proxy to send the further reply to the client.

59. The apparatus as in claim 58, whereby using the cryptographic information in the file handle eliminates a need for the proxy to generate additional requests to the file server to establish file identity further comprising:

~~the proxy further configured to receive, by the client, a second request, the second file request to include the cryptographic information in a second file handle sent with the second request;~~

~~the proxy further configured to identify, in response to the cryptographic information, the client as having a permission to submit the second file request;~~

~~the proxy further configured to send the second request to the file server and not to send the cryptographic information with the second file handle to the file server; and~~

~~the proxy further configured to receive a further reply from the file server, and the proxy to send the further reply to the client.~~

60. The apparatus of claim 58, ~~further comprising: wherein~~
the proxy ~~further configured to use the metadata in the file handle~~ is a Network File System (NFS) file handle received from the client to eliminate a need for additional communication with the file server to establish file identity.

65. A method for establishing identity in a file system, comprising:
receiving a file request concerning an indicated file from a client, the request received by a proxy;
forwarding the request from the proxy to a file server;
returning a reply associated with the file request from the file server to the proxy, wherein the reply includes a file handle associated with the indicated file;
inserting, by the proxy, metadata into the file handle; ~~and~~
sending, by the proxy, the file handle with the metadata inserted in the file handle to the client, a size of the file handle set to a sum of a length of the server file handle and a length of the proxy metadata, the metadata to be used in further requests to identify the client and the indicated file; and
receiving, from the client, a second file request by the proxy, the second file request comprising the metadata in a second file handle sent with the second file request;
identifying, in response to the metadata, that the client has permission to submit the second file request;

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sending the second file request to the file server and not sending the metadata with the second file handle to the file server; and

receiving by the proxy a second reply from the file server, and sending by the proxy the second reply to the client.

66. A method, comprising:

receiving, by a proxy, a file request for a file sent from a client;

forwarding the file request from the proxy to a file server;

returning a reply associated with the file request from the file server to the proxy, wherein the reply includes a file handle;

inserting, by the proxy, metadata into the file handle;

sending, by the proxy, the file handle with the metadata inserted in the file handle to the client; and

~~using, by the client, the metadata inserted into the file handle in a subsequent file request to identify the client and the file~~ receiving, from the client, a second file request by the proxy, the second file request comprising the metadata in a second file handle sent with the second file request;

identifying, in response to the metadata, that the client has permission to submit the second file request;

sending the second file request to the file server and not sending the metadata with the second file handle to the file server; and

receiving by the proxy a second reply from the file server, and sending by the proxy the second reply to the client.

67. A computer apparatus, comprising:

a proxy configured to receive a client file request for a file and forward the file request from the proxy to a file server;

the server configured to return a reply associated with the file request, wherein the reply includes a file handle;

the proxy further configured to intercept the file handle sent from the server and insert metadata into the file handle to create a modified file handle;

the proxy further configured to send the modified file handle with the metadata inserted in the file handle to the client; ~~and~~

the proxy further configured to receive the modified file handle from the client for a second file request for the file, wherein the proxy is further configured to use the modified file handle to eliminate a need for the proxy to generate one or more additional requests to the server that would be required to access the file if the modified file handle did not include the inserted metadata;

the proxy further configured to receive, by the client a second file request, the second file request configured to include the metadata in a second file handle sent with the second file request;

the proxy further configured to identify, in response to the metadata, the client as having permission to submit the second file request;

the proxy further configured to send the second file request to the file server and not to send the metadata with the second file handle to the file server; and
the proxy further configured to receive a second reply from the file server, and the proxy to send the second reply to the client.

REASONS FOR ALLOWANCE

4. Claims 1 – 5, and 30 – 67 are allowable in light of the applicant's arguments and in light of the prior art made of record.

Reason for Indicating Allowable Subject Matter

5. The following is an examiner's statement of reasons for allowance: Upon searching a variety of databases, the examiner respectfully submits that the following claim language is not taught by the prior art in conjunction with other recited limitations of its claim:

“inserting, by the proxy, metadata into the NFS file handle in response to receive the NFS file handle from the file server, wherein the metadata is an encryption key; sending, by the proxy in response to receiving the NFS file handle from the file server, the NFS file handle with the metadata inserted in the NFS file handle to the client as a reply to the first NFS operation; using, by the client, the metadata and the NFS file handle in a second NFS operation to identify the client and the indicated file: and receiving, from the client, the second NFS operation by the proxy, the second NFS operation comprising the metadata sent with the second NFS operation” recited in claim 1;

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“inserting, by the proxy, metadata into the file handle; sending, by the proxy, the file handle with the metadata inserted in the file handle to the client, the metadata to be used in further requests to identify the client as having a permission to access the indicated file; receiving, from the client, a second file request by the proxy, the second file request including the metadata in a second file handle sent with the second file request; identifying, in response to the metadata, that the client has the permission to submit the second file request; sending the second file request to the file server and not sending the metadata with the second file handle to the file server” recited in claim 31; “the proxy further configured to insert metadata into the NFS file handle in response to receiving the NFS file handle from the file server, wherein the metadata is an encryption key; and the proxy further configured to send the NFS file handle with the metadata inserted in the NFS file handle to the client as a reply to the first NFS operation, the metadata and the NFS file handle to be used in a second NFS operation to identify the client and the indicated file; the proxy further configured to receive, by the client, a second NFS operation, the second NFS operation comprising the metadata in the second NFS file handle sent with the second NFS operation” recited in claim 32; “inserting, by the proxy, metadata into the file handle in response to receiving the NFS file handle from the file server, wherein the metadata is an encryption key; and sending, by the proxy in response to receiving the file handle from the file server, the file handle with the metadata inserted in the file handle to the client as a reply to the first operation; receiving, from the client, a second file request by the proxy, the second file request comprising the metadata in a second file handle sent with the second file request”

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recited in claim 38; “inserting, by the proxy, a session key into the file handle; sending, by the proxy, the file handle with the session key inserted in the file handle to the client, the session key to be used in further requests to identify the client and the indicated file receiving, from the client, a second file request by the proxy, the second file request comprising information from the session key in a second file handle sent with the second file request” recited in claim 39; “the proxy to insert a session key into the file handle; the proxy to send the file handle with the session key inserted in the file handle to the client, the session key to be used in further requests to identify the client and the indicated file; the proxy to receive, by the client, a second file request, the second file request to include the session key in a further file handle sent with the second request” recited in claim 45;

“the proxy further configured to insert a session key into a file handle; the proxy further configured to send the file handle with the session key inserted in the file handle to the client, the session key configured to be used in a second file request to identify the client and the indicated file; the proxy further configured to receive, by the client, a second file request, the second file request configured to include the session key in a second file handle sent with the second file request” recited in claim 51;

“inserting, by the proxy, a cryptographic information into the file handle sending, by the proxy, the file handle with the cryptographic information inserted in the file handle to the client, the cryptographic information to be used in one or more requests to identify the client and the indicated file; receiving, by the client, a second file request by the proxy,

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the second file request including the cryptographic information in a second file handle sent with the second file request” recited in claim 52;

” the proxy further configured to insert a cryptographic information into the file handle; the proxy further configured to send the file handle with the cryptographic information inserted in the file handle to the client, the cryptographic information configured to be used in further requests to identify the client and the indicated file; the proxy further configured to receive, by the client, a second request, the second file request to include the cryptographic information in a second file handle sent with the second request” recited in claim 58;

“the proxy further configured to insert a cryptographic information into a file handle; the proxy further configured to send the file handle with the cryptographic information inserted in the file handle to the client, the cryptographic information configured to be used in a second file request to identify the client and the indicated file; the proxy further configured to receive, by the client, a second file request, the second file request configured to include the cryptographic information in a second file handle sent with the second file request” recited in claim 64;

“inserting, by the proxy, metadata into the file handle; sending, by the proxy, the file handle with the metadata inserted in the file handle to the client, a size of the file handle set to a sum of a length of the server file handle and a length of the proxy metadata, the metadata to be used in further requests to identify the client and the indicated file; and receiving, from the client, a second file request by the proxy, the second file request

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comprising the metadata in a second file handle sent with the second file request”
recited in claim 65; and

“inserting, by the proxy, metadata into the file handle; sending, by the proxy, the file handle with the metadata inserted in the file handle to the client; receiving, from the client, a second file request by the proxy, the second file request comprising the metadata in a second file handle sent with the second file request” recited in claim 66; and “the proxy further configured to intercept the file handle sent from the server and insert metadata into the file handle to create a modified file handle; the proxy further configured to send the modified file handle with the metadata inserted in the file handle to the client; the proxy further configured to receive the modified file handle from the client for a second file request for the file, wherein the proxy is further configured to use the modified file handle to eliminate a need for the proxy to generate one or more additional requests to the server that would be required to access the file if the modified file handle did not include the inserted metadata; the proxy further configured to receive, by the client a second file request, the second file request configured to include the metadata in a second file handle sent with the second file request” recited in claim 67”.

Therefore, all pending claims 1 – 5, and 30 – 67 are hereby allowed.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issues fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GIOVANNA COLAN whose telephone number is (571)272-2752. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Giovanna Colan
Examiner
Art Unit 2162
March 11, 2010

/John Breene/
Supervisory Patent Examiner, Art Unit 2162